March 19th 2008, A. Pany

Comparison of white noises with PPP KF

Specifications:

schedule:	st16uni_45_9_230X_1_5
software:	PPP KF
zwd:	Vienna turbulence (standard)
clk:	random walk + integrated random walk, ASDs: 2e-15 @ 15, 1e-14 @ 50 5e-14 @ 50
wn:	4/sqrt(2), 8/sqrt(2) and 12/sqrt(2) ps per station
zwd:	random walk, 0.7 ps²/s
SH:	SH11, random walk, 0.01 ps²/s
clk:	deterministic rate + random walk offset, var. rate for offset: 1 ps²/s

elevation dependent downweighting as proposed by J. Gipson:
sig ² = obs_sig ² + (10ps/sin(el)) ²

A comparison on the impact of white noises was carried out using the values specified above. The comparison was performed using 3 different clocks given in the specifications.

The same time series of turbulent equivalent zenith wet delay and clock were used for the comparison, differences in the rms values are thus only due to the different white noises.

Comparison of white noises for a clock with ASD 2e-15 @ 15 min

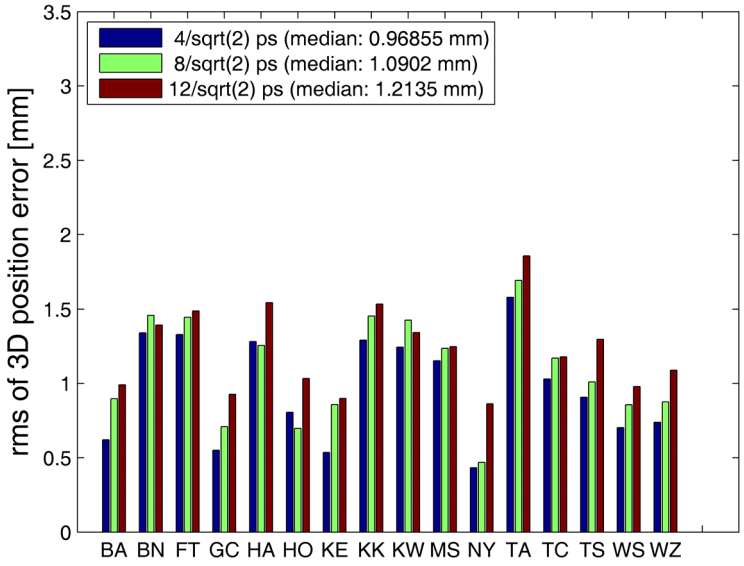

Figure 1a rms of 3D position error

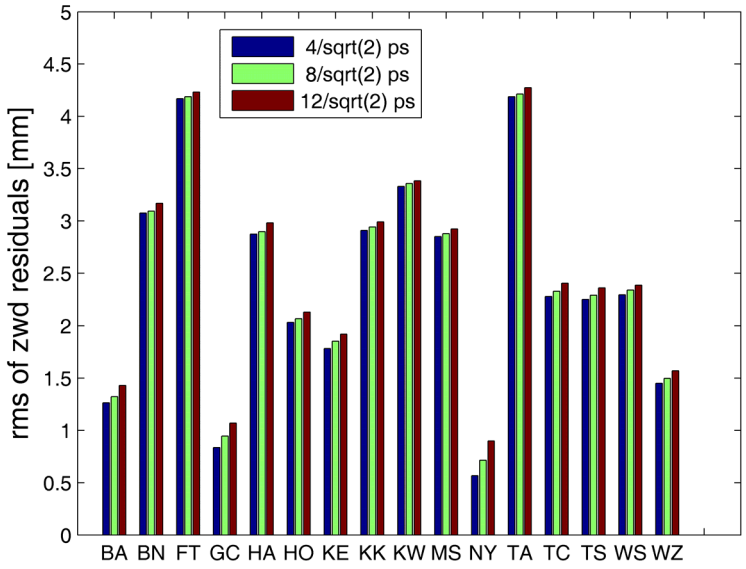

Figure 1b mean rms of zwd residuals

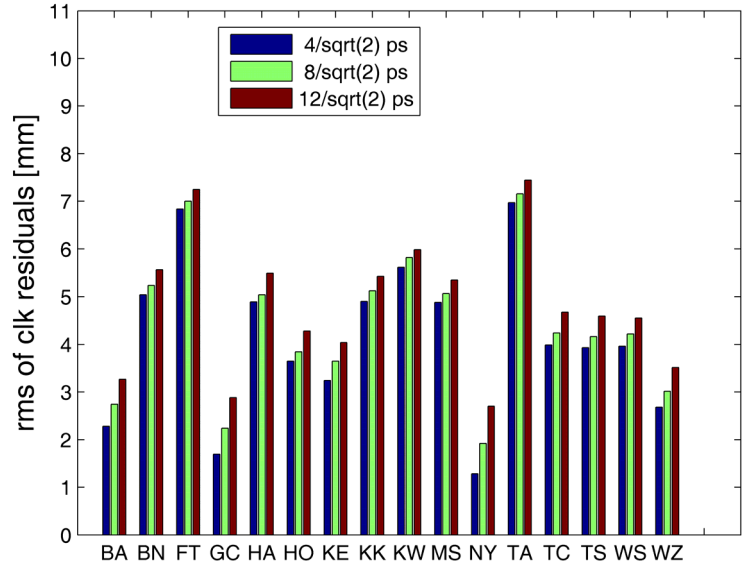

Figure 1c mean rms of clk residuals

Comparison of white noises for a clock with ASD 1e-14 @ 50 min

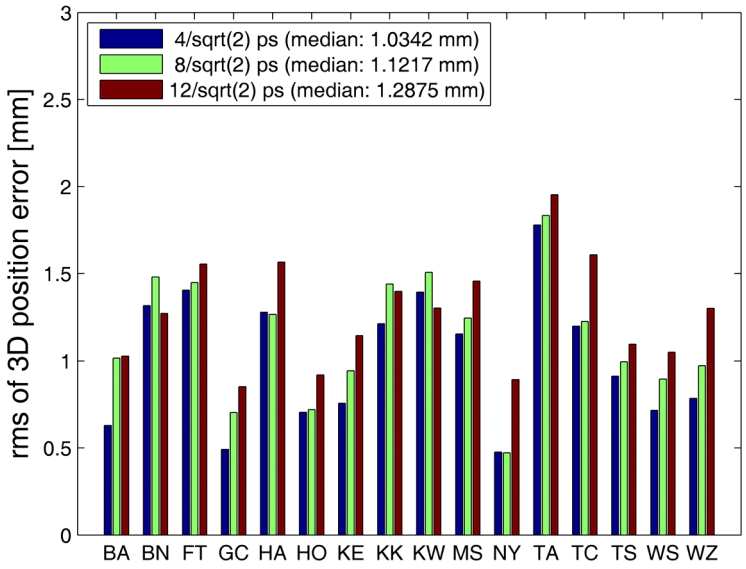

Figure 2a rms of 3D position error

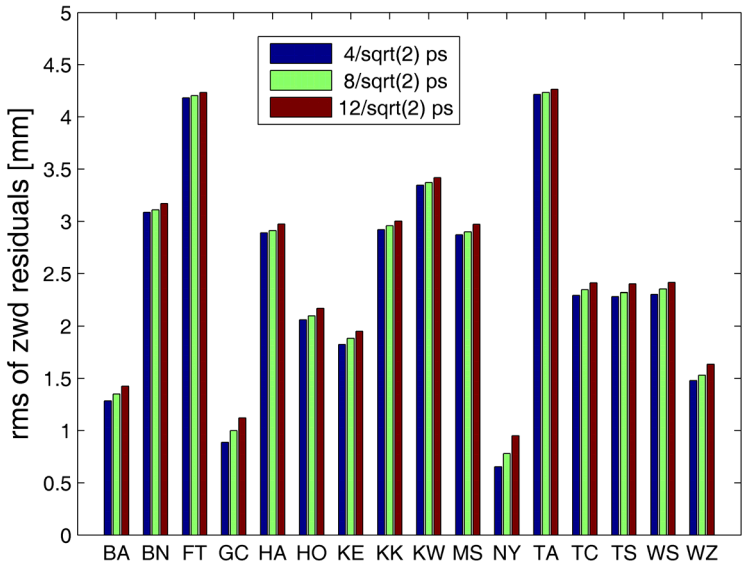

Figure 2b mean rms of zwd residuals

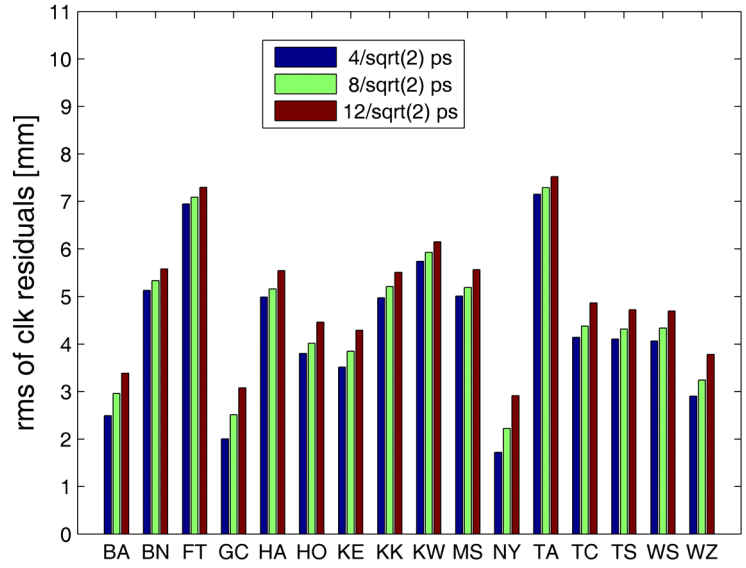

Figure 2c mean rms of clk residuals

Comparison of white noises for a clock with ASD 5e-14 @ 50 min

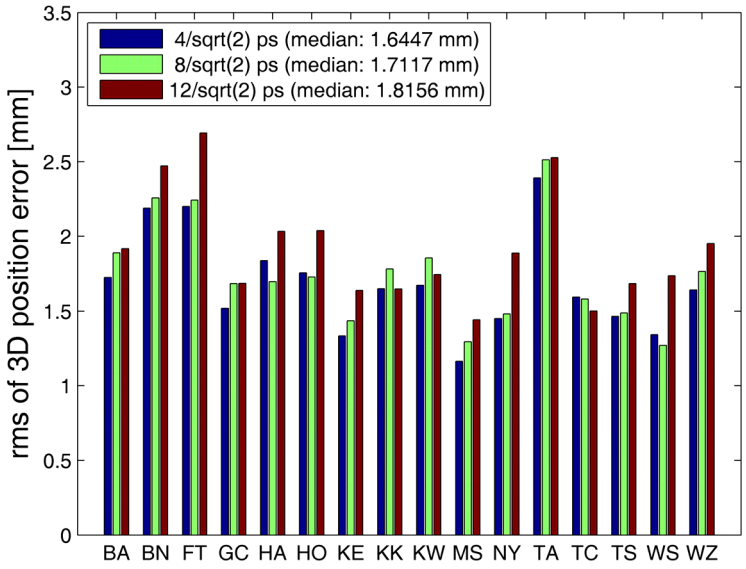

Figure 3a rms of 3D position error

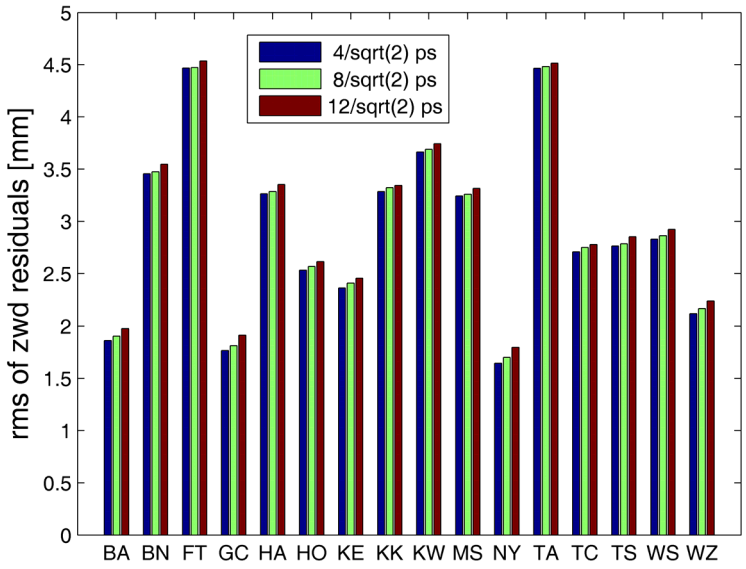

Figure 3b mean rms of zwd residuals

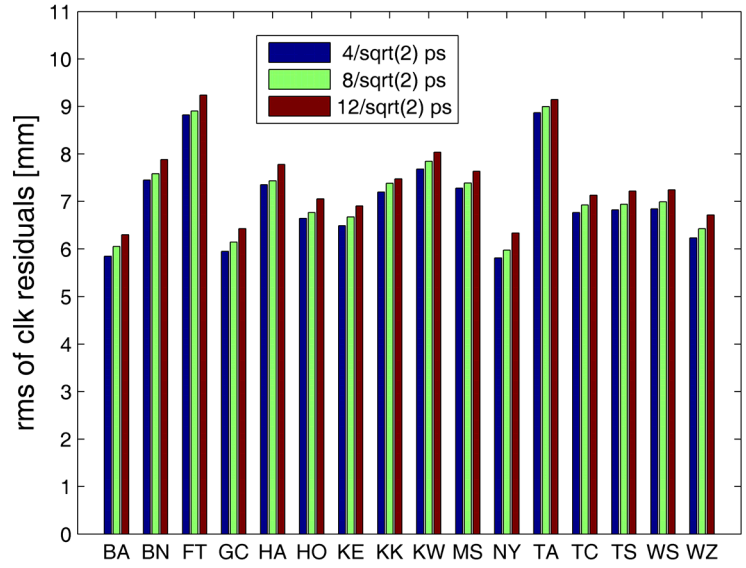

Figure 3c mean rms of clk residuals